INDIANA STROKE PREVENTION TASK FORCE

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INDIANA EPIDEMIOLOGY

- 7th highest stroke rate in the country
- 20th in mortality from stroke
- 3% of Indiana population living with sequelae of stroke
- Cost of medical care for stroke in Indiana was $373 million in 2006

NEED FOR STROKE TASK FORCE

- Epidemiologic data
- Lack of public awareness
- Lack of assertiveness with stroke treatment
- Stroke center certification
- Availability of federal funds for improvement of stroke care

LEGISLATION

- Strongly supported by AHA/ASA
- Failed in 2003 session
- Governor O'Bannon died from hemorrhagic stroke
- Legislation passed in 2004
- IC 16-41-41 created Indiana Stroke Prevention Task Force
- Additional legislation in 2008 renewed the ISPTF for another 4 years

COMPOSITION

- Neurologist
- Physiatrist
- Family Practitioner
- ER physician
- Registered nurse
- Recreational therapist
- EMS
- Hospital administrator (IHA)
- Indiana Primary Health Care Association
- Health commissioner
- Secretary of family services
- Stroke support organization(2)
- Indiana minority health coalition
- Rehabilitation Specialist
- Insurance industry
- Pharmacist
- Stroke survivor

ORIGINAL MANDATES

- Provide guidelines for the care of stroke patients
- Educate the public regarding stroke
- Maintain awareness of the most effective strategies for the medical intervention in stroke
- Assess the needs for stroke care in Indiana
- Advise the DOH of grant opportunities for health care providers related to stroke

GUIDELINES

- Risk Factors
- Transient ischemic attack
- Stroke

RECOMMENDATIONS

- Derived from standard evidence-based medicine assessment criteria
- Provide a basis for the management of stroke
- Minimum standard for such management
- Benchmark for initiating stroke management
- Suggest that level of care may vary with level of expertise and available technology

PUBLICATION

- Indiana state department of health
  - www.in.gov/isdh/publications/pdfs/IndianaStroke/guidelines.pdf
- Other web-sites
  - EMS
  - Nursing
  - ISMA
  - Specialty organizations
  - Stroke support groups
  - American Heart Association
  - Great Lakes Stroke Coalition

PUBLIC EDUCATION

- Public Service Announcements
- Pamphlets to medical offices

PROVIDER EDUCATION

- Symposium on the Guidelines – 2007
- Other individual presentations at professional meetings
- Informational booths at professional meetings

NEEDS ASSESSMENT

- EMS survey
- Hospital survey
- Rehab survey

ADDITIONAL MANDATES

- Develop a standardized stroke template checklist for EMS statewide protocols
- Develop a thrombolytic checklist to be used by EMS personnel
- Develop standardized EMS dispatcher training modules
- Develop an annual training update and CEU for first responders that includes the Cincinnati stroke scale
- Develop an integrated curriculum for providers, including EMS and ER personnel

MANDATES (CONT.)

- Develop a standard template of protocols, including thrombolytic therapy
- Refine the hospital stroke assessment tool to determine the capability of stroke management
- Research the feasibility of a state certification program for stroke centers
- Investigate the use of telemedicine in the treatment of stroke patients

MANDATES (CONT.)

- Distribute the rehabilitation survey from the GLRSN to rehab facilities in Indiana
- Develop a stroke survivor mentor program
- Implement a statewide patient and community education initiative targeting at-risk populations in Indiana

IN PROGRESS

- Stroke templates, protocols and thrombolytic checklist for EMS has been developed and submitted to the EMS commission for approval
- An additional survey has been distributed to Indiana hospitals with questions designed to clarify some information gleaned from the original survey
- The rehabilitation survey was distributed and compiled. The results were presented at a minisymposium at the state rehab meeting where we also presented information on the Share-givers program to provide additional aide to stroke survivors
- We are also developing a resource for patients to use to obtain information about issues that may arise after returning home, as another result of the rehab survey

Suspected Stroke/CVA/TIA

History
- Previous CVA, TIA
- Previous cardiac/vascular surgery
- Associated Diseases: diabetes, hypertension, CAD
- Atrial fibrillation
- Medications (blood thinners)
- History of trauma

Signs and Symptoms
- Altered Mental Status
- Weakness / Paralysis
- Vision disturbances
- Impaired speech (aphasia or dysarthria)
- Syncope
- Vertigo / Dizzyness
- Vomiting
- Headache
- Seizures
- Respiratory pattern change
- Hypertension / Hypotension

Differential Diagnosis
- Altered Mental Status
- TIA
- Seizure
- Hypoglycemia
- Stroke
- Tumor
- Trauma

ON SCENE:

1. Initial Assessment.
   - Level of consciousness
   - Assess and maintain airway, breathing, and circulation
   - Vitals (blood pressure, pulse, respirations)
2. Provide oxygen as clinically indicated (maintain oxygen saturation $\geq$ 93%).
3. Cardiac Monitor, treat rhythm as clinically indicated.
4. Perform Cincinnati Stroke Scale (CSS).
5. If CSS positive for stroke, limit scene time to 10 minutes and notify receiving facility as soon as possible.

ENROUTE (TIME IS CRITICAL - Do not delay transport):

1. Initiate IV enroute per protocol.
2. Check blood glucose enroute and consider treatment if $\leq$ 60 mg/dl with Glucagon if no IV or 50 % Dextrose.
3. Perform 12 LEAD EKG enroute.
4. Notify receiving facility or Medical Control of any changes.

Critical:
- Special attention should be given to determining the time of onset of symptoms or establishing when patient was last seen normal.
- Transport with caregiver or obtain contact (cell) number, if possible.
- Patients head may be elevated to a 15-30 degree elevation but suspected stroke patients should not be transported in sitting position.
- Pre-Hospital Providers should not treat hypertension in a suspected stroke patient.
- Stroke treatment is time dependent – any possible stroke patient should be transported to the closest appropriate facility as soon as possible.

STROKE "BRAIN ATTACK"

Initial Assessment
Routine Patient Care
Assess and Maintain Airway, Breathing, and Circulation

Administer oxygen:
as needed to treat shortness of breath
or
to maintain oxygen saturation of ≥ 93 %

*Perform Cincinnati Stroke Scale.
Obtain Information on the following:

- Time patient last seen normal/onset of symptoms
- Any noted seizure activity
- Past medical history

Advanced/ALS Providers:
Initiate IV of normal saline
Obtain blood sample, if possible
Check blood glucose (Consider treatment if < 60 mg/dl)
Monitor patient's heart rhythm (Consider 12 LEAD)

Monitor patient's condition
Position to protect any deficits
Initiate prompt transport
Contact receiving facility as soon as possible (once stroke is confirmed)
Transport with caregiver, if possible

TRANSPORT SAFELY
REASSURE and SUPPORT ENROUTE

THE CINCINNATI STROKE SCALE

FACIAL DROOP (*Patient shows teeth or smiles)*
Normal: Both sides of face move equally

Abnormal: One side of face does not move as well as the other

ARM DRIFT (*Patient closes eyes and extend both arms straight out for 10 seconds.)*
Normal: There is no drift at all or both arms drift the same

Abnormal: One arm drifts/moves down compared to the other arm or one arm noticeably weaker than the other.

SPEECH *(Score first attempt: Patient repeats, e.g. "You can't teach an old dog new tricks.")*
Normal: The Patient says the correct words with no slurring of words on first attempt.

Abnormal: The patient slurs words, says the wrong words or is unable to speak on first attempt

Thrombolytic Contraindications

- History of Stroke or TIA
- Active internal bleeding
- History of bleeding disorder
- Uncontrolled hypertension
- Intracranial/Spinal surgery
- History of aneurysm
- History of trauma or surgery in last 2 weeks
- Pregnancy
- Previous thrombolytic use
- Anticoagulant use

Emergency Medical Services
THROMBOLYTIC ELIGIBILITY CHECKLIST
STROKE

Patient Name: _____ **Date:** _____

Time Signs & Symptoms began: _____

If < 3 hours, continue:

	YES	NO	
Systolic BP > 180 mm Hg.			√
Diastolic BP < 110 mm Hg.			√
Active internal bleeding or small bleeding disorder?			√
History of CVA or CNS disease?			√
Known/suspected pregnancy, recent OB delivery?			√
Age > 75?			√
Receiving anticoagulants – e.g., Coumadin, Plavix, Lovenox?			√
Surgery or significant trauma in past 2 weeks?			√

If the answers to all of these are all no, the patient may be a candidate for thrombolytic therapy and transfer should be expedited to the ED. Inform the ED staff as soon as practical. This completed form is to be delivered to the ED staff upon arrival.

Time of EMS arrival on scene: _____

Signature: _____

IN PROGRESS

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IN PROGRESS (CONT.)

- Work is also in progress regarding a stroke survivor mentoring program which includes the Share-givers initiative
- The Task Force has acquired patient education materials and are in the process of determining how best to distribute to the high risk populations

IN PLANNING

- Training for first responders, dispatchers, other EMS personnel and ER personnel is being developed
- A standardized set of protocols for the management of stroke could reduce complications, improve outcomes, and facilitate care of individual patients among multiple facilities
- Could state based stroke certification be less expensive and more likely to facilitate the standardization of stroke care
- The Task Force is attempting to determine how to integrate telemedicine into the Guidelines and protocols for the management of stroke

LONG TERM GOALS

- Reduce the incidence and sequelae of stroke
- Educate the public about the risks and effects of stroke
- Hasten the management of stroke via EMS and ER
- Enhance management of stroke in the hospital
- Integrate hospitals in the management of stroke
- Maximize rehabilitation of stroke patient
- Facilitate reintegration of the patient back into their community after stroke

TODAY'S EVENT

- Telemedicine
- Rehabilitation progress
- EMS stroke management
- Hospital stroke certification
- Hospital systems in stroke care

WHAT IS THE TAKE-HOME MESSAGE?

- YOU ARE!

YOUR PARTICIPATION

- Surveys
- Symposium
- Skills